The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Cancelled)

2. (Previously presented) The metallic seal according to claim 11, wherein said first and second directions of said first and second sealing surfaces are arranged substantially parallel to said center longitudinal axis.

3. (Previously presented) The metallic seal according to claim 11, wherein said first and second directions of said first and second sealing surfaces are arranged to face substantially radially relative to said center longitudinal axis.

4. (Previously presented) A metallic seal comprising:

a first annular end section having a first annular sealing surface facing in a first direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a convexly curved surface;

a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a convexly curved surface; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal, said first and

second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile,

said first and second sealing surfaces being spaced apart by a first distance measured parallel to said center longitudinal axis that is substantially equal to a second distance measured perpendicular to said center longitudinal axis between said first and second sealing surfaces.

5. (Cancelled).

6. (Previously presented) A metallic seal comprising:

a first annular end section having a first annular sealing surface facing in a first direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a convexly curved surface;

a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a convexly curved surface, each of said convexly curved surfaces extending through an arc of about 60°; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile.

7. (Original) The metallic seal according to claim 6, wherein

said annular center section has a slope of about 45° with respect to said center longitudinal axis.

8. (Previously presented) A metallic seal comprising:

a first annular end section having a first annular sealing surface facing in a first axial direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a first convexly curved surface at a location that is spaced from a first free end of said first annular end section;

a second annular end section having a second annular sealing surface facing in a second axial direction that is opposite to said first axial direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a second convexly curved surface at a location that is spaced from a second free end of said second annular end section; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second annular sealing surfaces being located closer to midpoints of said first and second convexly curved surfaces than to said opposite ends of said annular center section and said first and second free ends, respectively,

said first and second sealing surfaces being spaced apart by a first distance measured parallel to said center longitudinal axis that is substantially equal to a second distance measured perpendicular to said center longitudinal axis between said first and second sealing surfaces, said first and second contact planes of said first and second sealing surfaces being arranged substantially perpendicular to said center longitudinal axis.

9. (Previously presented) A metallic seal comprising:

a first annular end section having a first annular sealing surface facing in a first radial direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a first convexly curved surface at a location that is spaced from a first free end of said first annular end section;

a second annular end section having a second annular sealing surface facing in a second radial direction that is opposite to said first direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a second convexly curved surface at a location that is spaced from a second free end of said second annular end section, each of said first and second convexly curved surfaces extending through an arc of about 60°; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second annular sealing surfaces being located closer to midpoints of said first and second convexly curved surfaces than to said opposite ends of said annular center section and said first and second free ends, respectively,

said first and second contact planes of said first and second sealing surfaces being arranged substantially parallel to said center longitudinal axis.

10. (Original) The metallic seal according to claim 7, wherein

said first and second sealing surfaces are spaced apart by a first distance measured parallel to said center longitudinal axis that is substantially equal to a second distance measured perpendicular to said center longitudinal axis between said first and second sealing surfaces.

11. (Previously presented) A metallic seal comprising:

a first annular end section having a first annular sealing surface facing in a first direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a convexly curved surface;

a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a convexly curved surface; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section having a slope of about 45° with respect to said center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile.

12. (Previously presented) The metallic seal according to claim 11, wherein said seal is formed of a corrosion resistant alloy.

13. (Previously presented) The metallic seal according to claim 11, wherein said seal is formed of a material selected from the group of nickel based alloys, copper based alloys, tin, aluminum based alloys and stainless steel.

14. (Previously presented) The metallic seal according to claim 11, wherein said first and second annular end sections have substantially identical cross sectional profiles that are inverted.

15. (Cancelled).

16. (Previously presented) The metallic seal according to claim 6, wherein said convexly curved surfaces extend from a free end of said seal to said annular center section.

17. (Original) The metallic seal according to claim 16, wherein said annular center section has a slope of about 45° with respect to said center longitudinal axis.

18. (Cancelled)

19. (Previously presented) The metallic seal according to claim 17, wherein said annular center section has a straight cross-sectional profile.

20. (Cancelled)

21. (Previously presented) A metallic seal comprising:

a first annular end section having a first annular sealing surface facing in a first direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a first convexly curved surface at a location that is spaced from a first free end of said first annular end section;

a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a second convexly curved surface at a location that is spaced from a second free end of said second annular end section, each of said first and second convexly curved surfaces extending through an arc of about 60°; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads

applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second annular sealing surfaces being located closer to midpoints of said first and second convexly curved surfaces than to said first and second free ends, respectively.

22. (Previously presented) A metallic seal comprising:

a first annular end section having a first annular sealing surface facing in a first direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a first convexly curved surface at a location that is spaced from a first free end of said first annular end section;

a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a second convexly curved surface at a location that is spaced from a second free end of said second annular end section; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section having a slope of about 45° with respect to said center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second annular sealing surfaces being located closer to midpoints of said first and second convexly curved surfaces than to said first and second free ends, respectively.

23. (Previously presented) A metallic seal comprising:

a first annular end section having a first annular sealing surface facing in a first direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a first convexly curved surface at a location that is spaced from a first free end of said first annular end section;

a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a second convexly curved surface at a location that is spaced from a second free end of said second annular end section; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal, said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second annular sealing surfaces being located closer to midpoints of said first and second convexly curved surfaces than to said first and second free ends, respectively,

said first and second sealing surfaces being spaced apart by a first distance measured parallel to said center longitudinal axis that is substantially equal to a second distance measured perpendicular to said center longitudinal axis between said first and second sealing surfaces.

24. (Currently Amended) An axial metallic face seal comprising:

a first annular end section having a first annular sealing surface facing in a first direction and lying in a first contact plane to contact a first member for creating a first annular sealing dam therebetw en, said first annular sealing surface being formed on a

convexly curved surface extending through an arc to form a first free end that is spaced from said first annular sealing surface;

a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a convexly curved surface extending through an arc to form a second free end that is spaced from said second annular sealing surface; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis that is substantially perpendicular to said first and second annular sealing surfaces, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal,

said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said annular center section having a slope that is not greater than 45° with respect to said first and second contact planes ~~center longitudinal axis~~.

25. (Previously presented) The axial metallic face seal according to claim 24, wherein

said first and second annular end sections have substantially identical cross sectional profiles that are inverted.

26. (Previously presented) The axial metallic face seal according to claim 24, wherein

said annular center section has a straight cross-sectional profile.

27. (Previously presented) An axial metallic face seal comprising:

a first annular end section having a first annular sealing surface facing in a first direction and lying in a first contact plane to contact a first member for creating a first

annular sealing dam therebetween, said first annular sealing surface being formed on a convexly curved surface extending through an arc to form a first free end that is spaced from said first annular sealing surface;

a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first direction, and lying in a second contact plane that is substantially parallel to said first contact plane to contact a second member for creating a second annular sealing dam therebetween, said second annular sealing surface being formed on a convexly curved surface extending through an arc to form a second free end that is spaced from said second annular sealing surface; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis that is substantially perpendicular to said first and second annular sealing surfaces, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal,

said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second sealing surfaces being spaced apart by a first axial distance measured parallel to said center longitudinal axis that is smaller than a second radial distance measured perpendicular to said center longitudinal axis between said first and second sealing surfaces.

28. (Previously presented) The axial metallic face seal according to claim 27, wherein

said first and second annular end sections have substantially identical cross sectional profiles that are inverted.

29. (Previously presented) The axial metallic face seal according to claim 27, wherein

said annular center section has a straight cross-sectional profile.

30. (Currently Amended) A ~~radial~~ metallic seal comprising:

a first annular end section having a first annular sealing surface facing in a first direction ~~and lying in a first contact plane~~ to contact a first member for creating a first annular sealing dam therebetween, said first annular sealing surface being formed on a convexly curved surface extending through an arc to form a first free end that is spaced from said first annular sealing surface;

a second annular end section having a second annular sealing surface facing in a second direction that is opposite to said first direction~~, and lying in a second contact plane that is substantially parallel to said first contact plane~~ to contact a second member for creating a second annular sealing dam therebetween that is substantially parallel to said first annular sealing dam, said second annular sealing surface being formed on a convexly curved surface extending through an arc to form a second free end that is spaced from said second annular sealing surface; and

an annular center section extending between said first and second annular end sections to form a ring having a central passageway with a center longitudinal axis ~~that is substantially parallel to said first and second annular sealing surfaces~~, said annular center section being frustoconically shaped with said first and second annular end sections being contiguously arranged at opposite ends of said annular center section such that sealing loads applied substantially perpendicularly on said first and second annular sealing surfaces primarily deform said metallic seal due to torsional stress of said metallic seal,

said first and second annular end sections and said annular center section being arranged to form an S-shaped cross sectional profile with said first and second sealing surfaces being spaced apart by a first ~~axial~~ distance measured along said first and second directions ~~perpendicular to said center longitudinal axis~~ that is smaller than ~~greater than one-half of~~ a second ~~axial~~ distance measured perpendicular ~~parallel~~ to said first and second directions ~~center longitudinal axis between said first and second sealing surfaces~~, said annular center section being inclined at an angle relative to said first and second sealing dams, with said angle being closer to forty-five degrees than zero degrees.

31. (Currently Amended) The ~~radial~~ metallic seal according to claim 30, wherein

said first and second annular end sections have substantially identical cross sectional profiles that are inverted.

32. (Currently Amended) The ~~radial~~ metallic seal according to claim 30, wherein said annular center section has a straight cross-sectional profile.

33. (New) The metallic seal according to claim 30, wherein said first and second directions are substantially parallel to said center longitudinal axis such that said metallic seal is an axial face seal.